<u>Amendments t the Claims:</u> This listing of claims will replace all prior versions, and listings, of claims in the application

## **Listing of Claims:**

- (Currently Amended) A substrate, suitable for the preparation of a composite
  membrane, which substrate comprises a porous-matrix non-woven sheet of fibres,
  characterised in that wherein the fibres comprise-mixed amorphous silica fibres a
  mixture of micro-fine amorphous silica fibres and one or more chopped strand(s) of
  amorphous silica that are and the fibres are bound with a binder.
- 2. (Canceled)
- 3. (Canceled)
- 4. (Currently Amended) A substrate according to claim 1, wherein the amorphous silica fibres comprise a mixture of both comprises microfibres and chopped fibres in the range of from 95:5% to 5:95% by weight of the mixture respectively.
- 5. (Currently Amended) A substrate according to claim 4, wherein the amorphous silica fibres comprise a mixture of both comprises microfibres and chopped fibres in the range of from 70:30% to 30:70% by weight of the mixture respectively.
- 6. (Original) A substrate according to claim 1, wherein the fibres have a diameter in the range of from  $0.1\mu m$  to  $50\mu m$ .
- 7. (Original) A substrate according to claim 6, wherein the fibres have a diameter in the range of  $0.4\mu m$  to  $9\mu m$ .
- 8. (Original) A substrate according to claim 1, wherein the binder comprises a solution or dispersion of ion-exchange polymeric materials, non-ion-conducting polymers, or inorganic materials or mixtures thereof.
- 9. (Original) A substrate according to claim 1 for use in the preparation of a composite membrane.
- 10. (Currently Amended) A composite membrane comprising a porous substrate of fibres and at least one ion-conducting polymer, characterised in that wherein the substrate comprises

a porous matrix non-woven sheet of mixed amorphous silica fibres a mixture of micro-fine amorphous silica fibres and one or more chopped strand(s) of amorphous silica and the fibres are bound with a binder.

- 11. (Original) A composite membrane according to claim 10, which when dried then boiled in water undergoes less than or equal to about  $\pm 9\%$  change in the area.
- 12. (Original) A composite membrane according to claim 10, wherein the total thickness of the membrane is less that  $200\mu m$ .
- 13. (Original) A composite membrane according to claim 10 for use in a fuel cell.
- 14. (Currently Amended) A process for the manufacture of a substrate, comprising the steps of
  - (a) dispersing-mixed amorphous silica fibres a mixture of micro-fine amorphous silica fibres and one or more chopped strand(s) of amorphous silica in water to form a slurry;
  - (b) depositing the slurry onto a mesh bed to form a <u>fibre</u> network;
  - (c) drying and compacting the fibre network; and
  - (d) applying, before or after step (c), a dispersion of binder.
- 15. (Original) A process for the manufacture of a membrane, comprising the steps of
  - (i) forming a porous substrate according to claim 14; and thereafter,
  - (ii) impregnating the porous substrate with a polymeric material to produce a membrane.
- 16. (Original) A process according to claim 15, wherein step (ii) is carried out by nip roller coating of the substrate to fill it with a solution of ion-conducting polymeric material, and further compaction and drying of the membrane.
- 17. (Original) A membrane electrode assembly comprising a composite membrane according to claim 10.

- 18. (Original) A fuel cell comprising a composite membrane according to claim 10.
- 19. (Currently Amended) A process according to claim 15, wherein-mixed amorphous silica the fibres are randomly oriented in said porous substrate.
- 20. (New) A substrate according to claim 1, wherein the fibres are randomly oriented.